

Please amend the paragraph beginning at page 34, line 1, as follows:

A3
More specifically, Fig. 3 illustrates an existing runway or taxiway section 52 imbedded in the existing soil 58. The thickness or depth of airport runways or taxiways varies in accordance with airport or airfield engineering specifications. Many existing runways or taxiways are 18 inches (45 cm) thick or deep. The soil 58 includes a soil top surface 60 that is preferably below a runway or taxiway top surface 62, and which abuts a side wall 64 of the runway or taxiway 52. To aid in the description of the present invention, the term "runway" hereafter refers to a runway, a taxiway or any other road traveled by airplanes.

A4
Please amend the paragraph beginning at page 38, line 12, as follows:

The weed barrier 56 also functions as a mat or cover that provides stability as the remainder of the system is installed. When the soil 58 is compacted it is in an unnatural condition whereby wind, machinery, workers, etc., can kick up the soil 58, adding air to it and lessening the level of compaction. The weed barrier 56 counteracts the tendency for the soil 58 to decompress by not allowing the soil surface 60 to be easily disrupted. Accordingly, a heavier or thicker weed barrier 56, e.g., 1/8 inch, (.31 cm) is preferably used in certain installations to provide additional stability on unstable soil.

A5
Please amend the paragraph beginning at page 40, line 10, as follows:

The artificial turf system 50 includes a base material 70 that characteristically or inherently retards plant and animal life, absorbs water and enables water to drain through to the weed barrier 56 between the base material 70 and the soil surface 60 and provides a firm and stable foundation for the synthetic turf 54. The base material 70 includes any material having such characteristics including, but not limited to: rock, crushed rock, concrete, or any combination thereof. The base material 70 also includes sand in combination with rock, crushed rock or concrete.

A6
Please amend the paragraph beginning at page 46, line 5, as follows:

Referring now to Fig. 4, a T shaped spike 120 or pinning device used for the present invention is illustrated. The top horizontal section 122 of the pinning device is preferably four inches (10 cm) long although the appropriate length will vary with the installation. The horizontal section 122 is preferably circular in cross-section is preferably 1/4 inch (.62 cm) in diameter although the shape and diameter may vary based on the installation. The vertical spike section 124 is preferably ten inches (25 cm) long although the appropriate length will vary with the installation. The vertical spike section 124 is also preferably circular in cross-section and is preferably 1/4 inch (.62 cm) in diameter although the shape and diameter may vary based on the installation. The pinning device and specifically the horizontal section 122 and the vertical spike section 124 are preferably of steel reinforced bar, which are welded, forged, fastened or otherwise suitably fixed so that one end of the vertical spike section 124 connects substantially to the middle of the horizontal section 122.

Please amend the paragraph beginning at page 53, line 15, as follows:

A7 Referring now to Fig. 7, an fragmentary cross-sectional view, taken along the section line VII-VII of Fig. 2, of one embodiment of an artificial turf system 110 illustrates an airport runway or taxiway section 52 adjacent to the artificial turf 54 and a sub-surface having a weed barrier 56 and a waterproof membrane 76. A system 110 implementor preferably: (i) excavates, grades, scarifies and compacts an application specific amount of the soil 58 to create a desired soil surface 60 (for existing airports and in certain instances for a new airport); (ii) installs a desired weed barrier 56 onto the soil surface 60; (iii) glues and ramsets a composite stud or member 66 using a suitable non-toxic glue and ramset 68; (iv) installs and compacts to tested specification an application specific amount of base material 70, preferably 3/4 inch (1.87 cm) road base or 3/4 inch (1.87 cm) minus crushed rock with binder; (v) installs a second sheet, which in this embodiment is a waterproof membrane 76, and the staples or suitably attaches the membrane to the top of the composite stud or member 66; (vi) installs a preferred two inch (5 cm) artificial turf by stapling and gluing the turf initially to the composite stud or member 66, sews separate adjacent and interior sections of turf together as necessary, pulls the sewed section taught, and drives pinning devices 74 in a preferred grid pattern to secure the turf before applies infill; and (vii) applies an application specific infill (preferably non-uniform sand) to an application specific height (preferably one inch (2.5 cm) below the tips of the turf's grass-like fibers).

A8 Please amend the paragraph beginning at page 58, line 14, as follows:

Referring now to Fig. 10, a top plan sectional view of an airport or airfield 150, including sections of airport runways, taxiways and areas 152 of adjacent synthetic turf employing a soft ground arrester system of the present invention is illustrated. The present invention preferably includes the artificial turf system 50 or 110 (Figs. 3 and 7 respectively) in areas 32 adjacent to or substantially adjacent to the runway or taxiway sides 154. The present invention preferably includes the arrester bed areas 152 having an arrester bed sub-surface adjacent to the runway or taxiway ends 156 wherever possible. Again, it is conceivable that the runways or taxiways contain obstacles, such as drains, etc., along their sides 154 or ends 156 that do not allow the turf to be uniformly applied along their edges.

A9 Please amend the paragraph beginning at page 62, line 1, as follows:

The primary differences between the arrester bed system 160 and the artificial turf systems 50 and 110 of Figs. 3 and 7, respectively, include the typical locations of the systems disclosed above in Fig. 10 and the base material 70 of the prior systems versus the arrester base materials 78 and 162. The arrester bed system 160 includes a base material 78 that characteristically retards plant and animal life, absorbs water, enables water to drain through to the soil surface 60 and provides a cushioned or slightly collapsible, energy absorbing characteristic to the sub-surface of the arrester bed system 160. The arrester base material 78 includes any material having these characteristics including, but not limited to: rolled

A9
cont
rock, sand, rubber, foamed rubber, plastic, cork, or any combination or derivative thereof.

Please amend the paragraph beginning at page 62, line 21, as follows:

A10
The height h of the base material 78 is application specific but is preferably the depth of the excavation along the runway end or side wall 64 less the height of the fibers of the artificial turf 54, wherein the fiber tips are substantially parallel with the runway surface 62 and less the height of a layer of a second base material 162. One major difference between the arrester bed system 160 and the artificial turf systems 50 and 110 of Figs. 3 and 7, respectively, is that the height h of the base material 78 varies, while the top surface of the artificial turf 54 remains substantially flat and substantially coplanar with the runway surface 62.

Please amend the paragraph beginning at page 63, line 8, as follows:

The arrester bed system 160 preferably gradually brings a runaway plane to a stop. An arrester system having a deeper height h absorbs more energy more quickly. If the height h of the base material 78 is initially too deep, a runaway plane may stop too fast and cause the plane's landing gear to collapse and the cargo and passengers of the plane to lurch forward. The height h therefore preferably deepens as the arrester bed system 160 spans away from the end or the side wall 64.

Please amend the paragraph beginning at page 63, line 15, as follows:

The depth of the excavation for the arrester bed system 160 is typically deeper than the depth of the excavation for the artificial turf systems 50 and 110 of Figs. 3 and 7, respectively. The arrester bed systems 160 include an initial excavation at the runway end or side wall 64 of between eight inches and three feet (20 and 90 cm). The initial excavation includes being deeper than the depth or thickness of a runway, in which case the system implementor takes sufficient steps to not damage the integrity of the soil beneath the runway.

Please amend the paragraph beginning at page 66, line 19, as follows:

All
The implementor installs a weed barrier 56 onto the top of the second arrester base material 162. The preferred weed barrier 56 and its preferred method of installation are discussed above in connection with Fig. 3. In certain areas of the arrester system 160, the implementor may desire to sheet water. The arrester system 160 thus includes a waterproof membrane 76, described above in connection with Fig. 7, in the place of the weed barrier 56.

Please amend the paragraph beginning at page 67, line 4, as follows:

A preferred two inch (5 cm) artificial turf 54 is installed such that the fiber tips are substantially coplanar or slightly below the runway surface 62, as described above in connection with Fig. 3. A washed sand infill layer (not illustrated) having varying sized granules, such as the infill 82 of Fig. 5, is installed, smoothed and compacted by making one or more passes with a four-ton double drum roller, as

A11
and

described above. The method of laying, sewing, stretching, and pinning the artificial turf 54 of the arrester system 160 is substantially the same as that disclosed in connection with the system 50 of Fig. 3.

Please amend the paragraph beginning at page 73, line 6, as follows:

A12

Referring now to Fig. 13, a top-front perspective sectional view through one repelling turf embodiment is illustrated, wherein a plurality of the flexible fibers 90 are replaced by repelling fibers 172 that repel loitering animals. The repelling turf section 182 has a plurality of the flexible fibers 90 and repelling fibers 172 cut away to illustrate a plurality of rows 104 of stitch or tuft holes 106. As discussed above, the repelling turf section 182 preferably includes a primary backing 86 and a secondary backing 88 and the above described methods of repelling fiber attachment. The rows 104 in this embodiment are alternatingly curved in a serpentine shape to prevent any possible "corn-row" effect from parallel rows. It is contemplated that straight rows of the repelling turf section 182 do not produce a corn-row effect. The repelling turf section 182 therefore includes alternatingly curved or straight rows.

Please amend the paragraph beginning at page 77, line 7, as follows:

A13

For sections of multi-pigmented turf installed adjacent to runways and taxiways, the multi-pigmented turf system 190 includes the composite stud 66 mastiqued and bolted to the runway side wall 64 via the ramsets 68, as described above. The multi-pigmented turf system 190 includes inserting the one inch (2.54 mm) staples 72 and the pinning devices 74 (not illustrated) as well as applying the glue as disclosed above to hold the turf in place. Each of these mounting devices enables snow removal from the multicolored turf 192, so that the airport markings of the system are visible. The multi-pigmented turf system 190 is adaptable to withstand the weight of a snow plow driving over the turf. Although the multi-pigmented turf system 190, as well as the other systems 50, 110 and 160 disclosed herein, can likely withstand the shearing force of the snow plow, another method of snow removal is contemplated.

Please amend the paragraph beginning at page 103, line 19, as follows:

A14

The multicolored turf segments 232 also include one or more of the synthetic holding position markings 248, such as the holding position marking 248a. The synthetic position marking 248a includes being as big as necessary for the pilot of aircraft 28c to easily see it. The position marking 248a otherwise preferably follows the FAA standards as far as color and the relative sizing and spacing of the four-sided border to the internal lettering and/or numbering. The relatively large synthetic position signal 248a, placed to the left or right of the taxiway "A" (in this case "A" is a taxiway), enables the pilot of the airplane 28c to easily see that the pilot should hold short of a runway "E" while on the taxiway "A" and await tower control clearance.